National Nosocomial Infections Surveillance System (NNIS) to National Healthcare Safety Network (NHSN) Comparison

Table I. General Differences

	NNIS	NHSN	Comments
Reporting method	❏ IDEAS software – DOS based ❏ Phone modem transmission to CDC	❏ Web-based ❏ Encrypted messaging	Current technology
Surveillance Plan	❏ Required	❏ Required	Roadmap to data – flags data for CDC to use.
Enrollment Requirements	❏ Acute care hospitals ❏ At least 100 beds ❏ Infection Control FTE requirements	❏ Internet access and email address ❏ Any healthcare delivery venue	❏ All healthcare entities will be able to use the Healthcare Personnel Safety Component. ❏ Initially, acute care hospitals and chronic dialysis centers will use the Patient Safety Component the most.
Forms	❏ One form for all infections	❏ Specific form for each event	❏ Allows for collection of infection-specific information ❏ Denominator data collection forms similiar
Definitions/Protocols	❏ Infection Definitions ❏ Data collection protocols ❏ ICD-9 codes used to define operative procedure categories	❏ Same ❏ Small refinements in data collection protocols ❏ Refinements in Operative Procedure Codes	❏ Changes recently in pneumonia criteria ❏ Future updates in other definitions

Table II. Device-Associated Module
- ❑ **Urinary Catheter-Associated Urinary Tract Infection (CAUTI)**
- ❑ **Central Line-Associated Bloodstream Infection (CLAB)**
- ❑ **Ventilator-Associated Pneumonia (VAP)**

	NNIS	NHSN	Comments
Population	- ICU - High Risk Nursery (HRN)	- ICU - High Risk Nursery (HRN) - Specialty Care Areas - Any patient care location - Other healthcare venues	- Allows for surveillance activities in areas other than intensive care areas - NHSN format allows for greater flexibility in designing surveillance plan
Numerator	All infections	Selected device-associated infections only - CAUTI and/or - CLAB and/or - VAP	- Includes only events of choice - Focused surveillance allows for more meaningful interventions
Denominator	For each ICU or HRN (by birthweight) - Patient days - All 3 types of device days - In HRN, 4 birthweight categories	For each patient care area monitored - Patient days 1-3 types of device days, depending on type(s) of event(s) monitored - In Special Care Area (SCA), split central lines into permanent and temporary - In HRN, 5 birthweight categories	 - Temporary central lines carry a higher risk of infection - There are more infants born weighing <750 grams. Their risk of infection is higher than infants >750 grams.
Microbiology	- Up to 4 pathogens - Complete antibiogram required (all sensitivities)	- Up to 3 pathogens - Selected antibiograms for selected organisms - Coag neg staph / Vanco - Other combinations of interest to CDC	- Limited number of required bug-drug combinations - Increased flexibility – you can enter as many agents as you need (up to 20 per bug) - Order of entry is flexible

Table III. Device-Associated Module

❑ **Dialysis Incident**

	Dialysis Surveillance Network	NHSN	Comments
Population	Dialysis outpatients	Same	
Numerator	Complete form for each dialysis incident (hospitalization, outpatient IV antimicrobial start, or positive blood culture). Computer algorithm imputes several event variables.	Same	
Denominator	Number of dialysis outpatients on the first working day of the month, stratified by 4 types of vascular access	Same	
Microbiology	Up to 3 pathogens. Resistance to methicillin, vancomycin.	Same as other NHSN components	

Table IV. Procedure-Associated Module
- **Surgical Site Infection**
- **Post-Procedure Pneumonia**

	NNIS (Surgical Patient Component)	NHSN	Comments
Population	Inpatients undergoing NNIS operative procedures ❑ 31 categories ❑ 13 "other" categories	In- and outpatients undergoing NHSN operative procedures ❑ 35 categories ❑ 7 new categories	❑ All operative procedures are identified by ICD-9-CM Codes ❑ Codes revised based on NNIS data and feedback from NNIS hospitals
Numerator	❑ All infections or ❑ SSI only	❑ SSI and/or ❑ Post-procedure pneumonia	
Denominator	❑ Number of inpatients undergoing selected NNIS operative procedure(s) ❑ Basic risk index	<u>For SSI and post procedure pneumonia</u> ❑ In-and outpatients undergoing NHSN operative procedure(s) <u>For SSI only</u> ❑ Basic risk index ❑ Additional specific risk factor data for certain operative procedures	❑ SSI's are stratified by risk index

Microbiology	❑ Up to 4 pathogens
	❑ Complete antibiogram required (all sensitivities)
		❑ Up to 3 pathogens
		❑ Selected antibiograms for selected organisms
		   ○ Coag neg staph / Vanco
		   ○ Other combinations of interest to CDC
			❑ Limited number of required bug-drug combinations
			❑ Increased flexibility – you can enter as many agents as you need (up to 20 per bug)
			❑ Order of entry is flexible

Table V. Medication-Associated Data
- Antibiotic Use and Resistance (AUR)

	NNIS	NHS N	Comments
Population	❑ ICU ❑ Non-ICU Inpatients ❑ Outpatients	Same	❑ NHSN – updated list of antimicrobial agents and bug-drug combinations ❑ Developing Electronic Data Capture mechanism.
Numerator	❑ Micro - # resistant isolates ❑ Pharm – DDD for each agent Must monitor both microbiology and pharmacy	Can choose to monitor micro or pharm or both	
Denominator	❑ Micro - # isolates tested ❑ Pharm - # patient days	Same	